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REVIEW OF COMMUNICABLE DISEASES OF PUBLIC HEALTH IMPORTANCE IN THE REGION

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Although health conditions have improved significantly in the last two decades, communicable diseases still remain one of the main causes of morbidity and mortality in countries of the Region.

While control of some communicable diseases, such as intestinal infections, depend on long-term programmes and are related to the socio-economic development and improvement of environmental sanitation, others, such as diphtheria, tetanus and poliomyelitis, are amenable to control in a short period of time by active immunization. Experience in developed countries has shown that those communicable diseases common to both developed and developing countries could be brought under control by systematic vaccination programmes applicable with limited effort in developing countries. For the above reason, and for the convenience of the Seminar, this

review considers seven communicable diseases preventable by immunization, namely smallpox, tuberculosis, diphtheria, tetanus, pertussis, measles and poliomyelitis.*

It is obvious, as in most countries of the Region comprehensive Health Services are not fully available in rural areas, and as 60 to 85 per cent of their population live in these areas, that the information available is relatively limited; however, it reflects the presence, and sometimes the importance, of communicable diseases in these countries. It also should be mentioned that due to the lack of proper reporting system from the periphery to the Central Health Administration (Ministry of Health), the quoted figures are usually lower than the actual incidence of the diseases. Smallpox could be used as an example. After the implementation of the eradication programme and proper reporting system, it was found that annual reporting covered only one to two per cent of the true incidence. There is no reason to believe that other diseases would be better reported than smallpox.

In 1970, case notifications were received from 17 out of 24 countries of the Region, with 140 million population; the remaining seven countries with 109 million population did not report, (Table 1) therefore, information on preventable communicable diseases is not available for almost half of the population of the Region (44 per cent).

The notifications of mortality follow a pattern similar to that of case notifications, as death registration data, including the cause of death, are not available for rural areas, and even for urban areas are relative and sometimes reported by estimation.

* To review the magnitude of the problem of these communicable diseases in the Region, reference has been made to the WHO notification of cases for the year 1970 for countries of the Region, which at the time of preparation of this report is the most complete information available.

It could be noted that reports were provided from 13 countries of the Region with 114 million population, whereas 11 countries with 136 million population did not report (Table 2). Therefore, no information about the cause of deaths is available for more than half the population of the Region (54 per cent).

There is no particular sign indicating that the data for the 50 per cent of the population for which no reports are received would be much different than that for the other half. Most probably, since the countries reporting have some kind of notification system for communicable diseases, and would also enjoy a more developed Health Service and consequently organization for the control of these diseases, it would seem that the morbidity and mortality of communicable diseases might be higher in non-reporting countries.

Although it is difficult to draw concrete conclusions from the available data and epidemiological explanation would be relative and have its own limitation, it is interesting to examine the prevalence of the diseases mentioned above in the countries of the Region.

Diphtheria

Fourteen countries of the Region with 104 million population reported 5679 cases of diphtheria, which means a rate of 5.4/100 000; this figure is quite high compared with the near nil incidence reported by developed countries. In several countries of the Region, diphtheria is rarely seen because children, particularly in rural areas, contract skin infections by corynebacterium diphtheriae which produces immunity against the respiratory infection of the disease. In countries with a higher percentage of urban population, the number of reported cases is much higher, and it should be expected that in the future, with the development of urbanization, the number of cases will still increase. Usually the cases notified are those that were referred to hospitals, and for which the information was provided through hospital records; those cases treated by private physicians may not always be reflected in the available data (Table 3).

Tetanus

Seven countries with 65 million population reported 479 cases of tetanus, whereas seventeen countries with 185 million did not provide reports.

However, it is well known that neonatal tetanus is highly prevalent in rural areas in the absence of primary health care and by no means should the adult tetanus cases be any less in the non-reporting countries than in those who provide notifications; therefore, one can easily imagine the magnitude of this disease, which is preventable by immunization (Table 3).

Whooping cough

Whooping cough is known as a killing disease for newborns. Forty thousand cases were reported from 11 countries with 76 million population, whereas from 13 countries with 174 million population, no reports were received. It is possible that some countries do not consider whooping cough as a notifiable disease. The available data indicates the rate of incidence to stand at 52/100 000 (Table 3).

Measles

Measles which is known as a most serious disease in African countries and, in winter time, in the highlands of countries of the Region, has become one of the preventable communicable diseases ever since the discovery of a protective vaccine. Thirteen countries of the Region with 80 million population reported 105 000 cases, which represents a rate of 132/100 000. For the remaining 11 countries with 170 million population no reports are available. It is believed that this figure shows only a proportion of the actual occurrence of the disease, as many cases were not reported and not even referred for treatment (Table 3).

Polioomyelitis

Polioomyelitis is an emerging disease in countries of the Region. Several outbreaks have been reported in Egypt, Lebanon, Iran and Pakistan. It should be expected that in the future we shall experience more outbreaks of the same type. Therefore, it

seems advisable to add poliomyelitis vaccination to the immunization programme to prevent such mishaps, which are very costly and have a heavy death-toll.

Tuberculosis

Tuberculosis is one of the communicable diseases of great concern in the Region. Information from 11 countries (37 per cent) shows 5 cases per 100 000 population, but it is believed that the magnitude of the problem is much greater than is reflected.

Although BCG vaccination is not the only possible means for prevention of tuberculosis, it certainly contributes to preventing different aspects of childhood tuberculosis.

Smallpox

The global eradication programme assisted by WHO has altered the pattern of occurrence of smallpox in the world and particularly in the Eastern Mediterranean Region. After establishment of the surveillance component in the eradication procedures it was found out that the notification of cases accounted for only 1 - 2 per cent of the natural incidence. Thorough case-finding and containment activities developed further, and it is most encouraging to note that after only eight years since the inception of the eradication programme only some parts of one country still remain endemic to-date, and it is hoped that it will also reach the smallpox-free status in the near future.

Mortality for the above disease followed the same pattern (Table 4). It is clear that reports were received only for less than 50 per cent of all the population of the Region. The available notification data is under-recorded for the same reason as mentioned above. Therefore the problem of communicable diseases is much greater than has been reflected in figures given above and in the attached tables.

Considering that these diseases are controllable by immunization, and have in fact been effectively controlled in Europe and North America to the extent that mortality

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is now negligible, it can be concluded that the development of reporting as part of surveillance of communicable diseases would reveal the priority for control of these diseases, and provide reliable data for epidemiological analysis and evaluation of the immunization programme.

Table 1

Case notifications from countries of the Region

1970

	Reporting	Not reporting	Total
No.of countries	17	7	24
Population(000)	140 991	109 595	250 586
Population %	56	44	100

Table 2

Deaths notifications from countries of the Region

1970

	Reporting	Not reporting	Total
No.of countries	13	11	24
Population(000)	114 060	136 526	250 586
Population %	44	56	100

Table 3

Morbidity rate of preventable communicable diseases
reported in 1970 in the 24 countries of the Region

Name of Disease	Reporting Countries	Population (000)	Non Reporting Countries	Population (000)	No of Cases reported	Rate per 100 000
Diphtheria	14	104 301	10	146 285	5 679	5.4
Tetanus	7	65 250	17	185 336	479	0.7
Whooping Cough	11	76 026	13	174 560	40 026	52.0
Measles	13	79 966	11	170 620	105 667	132.0
Poliomyelitis	14	70 180	10	180 406	1 417	2.0
Tuberculosis	14	87 590	10	162 996	107 931	123.0

Table 4

Mortality rate of preventable communicable diseases
reported in 1970 in the 24 countries of the Region

Name of Disease	Reporting Countries	Population (000)	Non Reporting Countries	Population (000)	No of Deaths	Rate per 100 000
Diphtheria	12	113 960	12	136 626	373	0.32
Tetanus	6	43 627	18	206 959	1 148	2.63
Whooping Cough	10	94 059	14	156 527	45	0.04
Measles	11	91 979	13	158 607	4 242	4.61
Poliomyelitis	12	88 649	12	161 937	252	0.28
Tuberculosis	11	94 099	13	156 487	4 648	4.93